

WHAT IS CLAIMED IS:

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1. An apparatus for making a plurality of terminals have
a random access to the reverse common channel system in CDMA,
5 comprising:

code synchronization detection information broadcast means
provided in said base station for broadcasting the state
information of a channel card in real time for said terminals to
recognize the code synchronization detection when the code
10 synchronization of a certain data is acquired through performing
the code synchronization of the preambles transmitted from said
terminals through said reverse common channel; and

data transmission determination means provided in said
terminals for making the terminals to have attempted data
transmission in the same time slot with the data of said code
15 synchronization detection continuously transmit data and the
other terminals stop data transmission.

2. An apparatus for making a plurality of terminals have
20 a random access to the reverse common channel system in CDMA, as
defined in Claim 1, wherein each of said terminals comprises:

a data generator for generating the data transmitted to said
base station;

a data transmitter for transmitting said data generated from
25 said data generator;

a terminal RF signal processor for converting said data from

said data transmitter into an RF signal transmitted to said base station and for processing an RF signal received from said base station;

5 a broadcast signal receiver for receiving a broadcast signal from said terminal RF signal processor to determine the data transmission; and

10 data transmission determination circuit for controlling said data transmitter to determine whether to make an attempt of transmitting data or to keep on transmitting the data presently under transmission according to said broadcast signal.

3. An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 2, wherein, when said data transmission determination circuit receives a broadcast signal representing the detection of the code synchronization in a time slot from said base station, it holds the data transmission until receiving a broadcast signal representing the code synchronization not acquired when it does not perform data transmission or keeps on transmitting data when it has attempted the data transmission in the time slot corresponding to said broadcast signal or stops the data transmission performed in the time slot not corresponding to said broadcast signal and holds it until receiving a broadcast signal representing the code synchronization not acquired.

25 4. An apparatus for making a plurality of terminals have

a random access to the reverse common channel system in CDMA, as defined in Claim 3, wherein said data transmission determination circuit determines the data transmission by receiving the broadcast signal representing the detection of the code synchronization in a time slot from said base station, the data transmission being determined by the first or second broadcast signal according as the ratio of the packet length to the slot length is 2 or 4.

5 10 5. An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 2, wherein said data transmitter is designed to have a transmitted data unit consisting of the preamble and user's data, and the power of said preamble is set different from that of said user's data.

15 20 25 ~~6.~~ An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 2, wherein said data transmitter performs the power control according to the power control bit transmitted after receiving the broadcast signal representing the detection of the received signal synchronization from said base station, and maintains a constant power level regardless of the power control bit transmitted upon receiving the broadcast signal representing the received signal synchronization not acquired from said base station.

7. An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 1, wherein said base station comprises:

a base station RF signal processor for receiving the RF signal transmitted from the terminal;

a data transceiver for demodulating the signal from said base station RF signal processor to deliver it to an upper hierarchy or another network or vice versa, said data transceiver generating a signal representing whether the received signal synchronization is acquired or no;

a detection determination circuit for receiving the resultant signal of the code synchronization used to determine whether the received signal is acquired or no upon completing the preamble of the data transmitted from said data transceiver;

a broadcast determination circuit for determining the information to broadcast to said terminals according to the detection of the received signal synchronization recognized by said detection determination circuit; and

a broadcast transmitter for controlling said base station RF signal processor to transmit the broadcast signal determined by said broadcast determination circuit at a prescribed power level in a prescribed time.

8. An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 7, wherein said detection determination circuit

determines the initial code synchronization and the tracking of the synchronization in a given time before completion of a preamble transmission to make said terminals perform the precise operation in the beginning of the slot.

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9. An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 8, wherein said detection determination circuit searches the codes around the beginning of each time slot for a duration that may vary from the length of the time slot to the length of the preamble.

10. An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 7, wherein said broadcast determination circuit determines the broadcast signal only with a single bit representing the detection of the synchronization in the preamble.

11. An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 7, wherein said broadcast transmitter transmits the broadcast signal determined by said broadcast determination circuit through an additional channel using a different code other than the presently used code at every time of completing the slot.

12. An apparatus for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 7, wherein said broadcast transmitter transmits the broadcast signal determined by said broadcast determination circuit at every time of completing the slot in the punctured form having the power control bit transmitted through the pilot channel and a time offset.

Sub A 6 13. A method for making a plurality of terminals have a random access to the reverse common channel system in CDMA, comprising the steps of:

broadcasting from said base station the state information of a channel card in real time for said terminals to recognize the code synchronization detection when the code synchronization of a certain data is acquired through performing the code synchronization of the preambles transmitted from said terminals through said reverse common channel; and

making the terminals to have attempted data transmission in the same time slot with the data of said code synchronization detection continuously transmit data and the other terminals stop data transmission.

15 14. A method for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim 13, wherein the step of making the terminals transmit data comprising the steps of:

generating the data transmitted to said base station;
transmitting said data to said base station;
converting said data into an RF signal transmitted to said
base station and processing a broadcast RF signal received from
5 said base station;
receiving the converted broadcast RF signal to determine the
data transmission; and
determining whether to make an attempt of transmitting data
or to keep on transmitting the data presently under transmission
according to said broadcast signal.

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15. A method for making a plurality of terminals have a
random access to the reverse common channel system in CDMA, as
defined in Claim ~~14~~¹⁵, wherein the step of transmission
determination comprises the step of holding the data transmission
until receiving a broadcast signal representing the code
synchronization not acquired when it does not perform data
transmission or keeps on transmitting data when it has attempted
the data transmission in the time slot corresponding to said
broadcast signal or stops the data transmission performed in the
time slot not corresponding to said broadcast signal and holds
it until receiving a broadcast signal representing the code
synchronization not acquired, when receiving a broadcast signal
representing the detection of the code synchronization in a time
slot from said base station.

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~~16~~. A method for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim ~~15~~¹⁶, wherein the step of transmission determination includes the further step of determining the data transmission by receiving the broadcast signal representing the detection of the code synchronization in a time slot from said base station, the data transmission being determined by the first or second broadcast signal according as the ratio of the packet length to the slot length is 2 or 4.

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~~17~~. A method for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim ~~14~~¹⁵, wherein the step of data transmission has a transmitted data unit consisting of the preamble and user's data, and the power of said preamble is set different from that of said user's data.

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~~18~~. A method for making a plurality of terminals have a random access to the reverse common channel system in CDMA, as defined in Claim ~~14~~¹⁵, wherein the step of data transmission performs the power control according to the power control bit transmitted after receiving the broadcast signal representing the detection of the received signal synchronization from said base station, and maintains a constant power level regardless of the power control bit transmitted upon receiving the broadcast signal representing the received signal synchronization not acquired

from said base station.

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19. A method for making a plurality of terminals have a
random access to the reverse common channel system in CDMA, as
5 defined in Claim 13, wherein the step of broadcasting in said
base station comprises the steps of:

receiving the RF signal transmitted from the terminal;

demodulating the signal from said base station RF signal
processor to deliver it to an upper hierarchy or another network
or vice versa, and generating a signal representing whether the
received signal synchronization is acquired or no;

receiving the resultant signal of the code synchronization
used to determine whether the received signal is acquired or no
upon completing the preamble of the data transmitted;

determining the information to broadcast to said terminals
according to the detection of the received signal
synchronization; and

controlling said base station to transmit the broadcast
signal at a prescribed power level in a prescribed time.

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20. A method for making a plurality of terminals have a
random access to the reverse common channel system in CDMA, as
defined in Claim 19, wherein the step of receiving the resultant
signal determines the initial code synchronization and the
25 tracking of the synchronization in a given time before completion
of a preamble transmission to make said terminals perform the

precise operation in the beginning of the slot.

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21. A method for making a plurality of terminals have a
random access to the reverse common channel system in CDMA, as
defined in Claim 20, wherein the step of receiving the resultant
signal searches the codes around the beginning of each time slot
for a duration that may vary from the length of the time slot to
the length of the preamble.

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22. A method for making a plurality of terminals have a
random access to the reverse common channel system in CDMA, as
defined in Claim 19, wherein the step of determining the
information to broadcast determines the broadcast signal only
with a single bit representing the detection of the
synchronization in the preamble.

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23. A method for making a plurality of terminals have a
random access to the reverse common channel system in CDMA, as
defined in Claim 19, wherein the step of controlling said base
station transmits the broadcast signal through using a different
code other than the presently used code at every time of
completing the slot.

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24. A method for making a plurality of terminals have a
random access to the reverse common channel system in CDMA, as
defined in Claim 19, wherein the step of controlling said base

station transmits the broadcast signal at every time of completing the slot in the punctured form having the power control bit transmitted through the pilot channel and a time offset.

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